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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/586,307	05/25/2007	David Patrick Egan	293610US0PCT	2529
22850	7590	03/31/2008		
OBLON, SPIVAK, MCCLELLAND MAIER & NEUSTADT, P.C. 1940 DUKE STREET ALEXANDRIA, VA 22314				
EXAMINER MARCHESCHI MICHAEL A				
ART UNIT		PAPER NUMBER		
1793				
NOTIFICATION DATE		DELIVERY MODE		
03/31/2008		ELECTRONIC		

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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### Office Action Summary

**Application No.**

10/586,307

**Applicant(s)**

EGAN ET AL.

**Examiner**

Michael A. Marcheschi

**Art Unit**

1793

**Period for Reply** -- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 15 February 2008.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1,3,6,7 and 10-19 is/are pending in the application.
- 4a) Of the above claim(s) 12-19 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,3,6,7,10 and 11 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/S508)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Newly submitted claims 12-19 are directed to an invention that is independent or distinct from the invention originally claimed for the following reasons: The newly submitted claims are directed to a method and not a composition as originally defined and thus could have been restricted out initially if present.

Since applicant has received an action on the merits for the originally presented invention, this invention has been constructively elected by original presentation for prosecution on the merits. Accordingly, claims 12-19 are withdrawn from consideration as being directed to a non-elected invention. See 37 CFR 1.142(b) and MPEP § 821.03. However, rejoinder will be considered once the elected invention is found to be allowable.

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 1, 3, 6, 7, 10 and 11 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

The new matter added to claim 1 is the limitation that the metal of the inner layer is Ni because the specification, as originally filed does not provide support for this specific species.

Since the other claims depend on claim 1, they are also rejected for the above reasons.

Claims 1, 3, 6, 7, 10 and 11 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 1 is indefinite because line 3 defines that the inner layer is a metal carbide, however, the metals defined in line 4 are not specifically defined as carbides. In view of this, the claim is indefinite because line 3 appears to be defining that the layer must be a carbide but line 4 appears to be defining that the layer can only be a metal and not a carbide. It is suggested that these lines be rewritten (i.e. at least one metal carbide, wherein the metal of the carbide layer is selected from...).

Claim 1 is also indefinite as to the limitation "more than one metal or metal alloy" because the examiner is unclear as to if this means that (1) a plurality of metals and/or a plurality of metal alloys are used or (2) a plurality of metals and/or only a single metal alloy is used. In other words, is the limitation "more than one" defining that if an alloy is used, it must be more than one alloy or is "more than one" only referring to the use of a plurality of metals and not a plurality of alloys.

Claim 3 is indefinite because it defines that the outer layer comprises an alloy (an alloy implies only one alloy), however, claim 1 can be interpreted to be defining that if an alloy is

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used, it is more than one alloy (see interpretation above). In view of this, the claim is indefinite because the metes and bounds of the claim protection sought are not clearly defined.

Claim 10 is indefinite because the last 2 lines of this claim define a nitride, boride or boronitride coating, however, claim 1 has been amended to exclude these coatings, thus the scope of claim 10 is outside the scope of claim 1.

Claim 11 is indefinite because it defines that the outer layer can comprise only one metal, however, claim 1 clearly defines that the outer layer must be more than one metal, thus the scope of claim 11 is outside the scope of claim 1.

The other claims are indefinite because they depend on an indefinite claim.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1, 6, 7 and 10 are rejected under 35 U.S.C. 103(a) as obvious over Chen et al. (680).

Chen et al. teaches in column 2, lines 34-65 and the claims, diamond particles coated with a carbide inner layer (chromium, titanium or zirconium) and an outer layer of a metal (tungsten or molybdenum).

The reference teaches all of the claimed limitations with the exception of the use of more than one metal in the outer coating, however, this is obvious because the reference teaches that

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the outer coating can be tungsten or molybdenum and it is prima facie obvious to combine two or more materials disclosed by the prior art to form a third material (i.e. combination of tungsten or molybdenum) that is to be used for the same purpose (i.e. as the outer coating). In re Kerkhoven 205 USPQ 1069.

Claims 1, 6, 7 and 10-11 are rejected under 35 U.S.C. 102(b) as anticipated by EP 532261.

The EP reference teaches in the abstract, page 3, lines 17-18 and the claims, boron nitride particles coated with a primary layer (carbide inner layer (chromium, etc.) ) and an outer layer of a metal alloy (tungsten, titanium, etc. and an alloy is made up of more than one metal).

The claimed invention is anticipated by the reference because the reference teaches a diamond particle coated with the claimed layers.

Claim 3 is rejected under 35 U.S.C. 103(a) as obvious over EP 532261 as applied to claim 1 above and further in view of Moriguchi et al. (219).

The use of a platinum group metal in the outer coating layer according to the EP reference (i.e. outer coating defined by this reference can be Cr, Mo and W or an alloy thereof) would have been obvious motivated by the fact that the secondary reference clearly teaches in column 4, lines 44-46 that when coating diamonds, the outer coating can contain in addition to at least one metal of Cr, Mo and W (same metals according to the EP reference for the outer coating), a platinum group metal. The specific combination is therefore obvious because it is prima facie obvious to combine two or more materials disclosed by the prior art to form a third material (i.e. combination of alloys of Cr, Mo or W with a platinum group metal) that is to be

used for the same purpose (i.e. as the outer coating). In re Kerkhoven 205 USPQ 1069. In as much that this passage is directed to diamonds and not cBN, this reference clearly teaches in column 6, lines 65-68 coupled with column 2, lines 48-50 that cBN can be used in place of diamond, thus the teachings of the reference would clearly imply that cBN can also be coated with the materials defined therein.

Claims 1, 6, 7, 10 and 11 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-4 of copending Application No. 10/586,394 in view of EP 532261. The copending claims teach the claimed invention with the exception of (1) the specific metal used for the carbide inner layer and the specific metals used for the outer layer (i.e. more than one metal). However, the use of the claimed specific metals for each coating is obvious motivated by the fact that the EP reference clearly teaches that these metals are well known metals to be used to coat cores of superhard abrasives and the skilled artisan would have found any conventionally known metals to be obvious absent clear and convincing evidence to the contrary.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

Claim 3 is provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-4 of copending Application No. 10/586,394 in view of EP 532261 as applied to claim 1 above and Moriguchi et al. (219).

The use of a platinum group metal in the outer coating layer according to the above combination would have been obvious motivated by the fact that Moriguchi et al. clearly teaches in column 4, lines 44-46 that when coating diamonds the outer coating can contain in addition to at least one metal of Cr, Mo and W (same metals according to the EP reference for the outer coating), a platinum group metal. The specific combination is therefore obvious because it is prima facie obvious to combine two or more materials disclosed by the prior art to form a third material (i.e. combination of alloys of Cr, Mo or W with a platinum group metal) that is to be used for the same purpose (i.e. as the outer coating). In re Kerkhoven 205 USPQ 1069. In as much that this passage is directed to diamonds and not cBN, this reference clearly teaches in column 6, lines 65-68 coupled with column 2, lines 48-50 that cBN can be used in place of diamond, thus the teachings of the reference would clearly imply that cBN can also be coated with the materials defined therein.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

Applicant's arguments filed 2/15/08 have been fully considered but they are not persuasive.

Applicants argue that Chen does not teach that the outer layer comprises more than one metal. The examiner acknowledges this, however, in view of applicants amendments the rejection stands because it is prima facie obvious to combine two or more materials disclosed by the prior art to form a third material (i.e. combination of tungsten or molybdenum) that is to be used for the same purpose (i.e. as the outer coating). In re Kerkhoven 205 USPQ 1069. In as



much as the examples are argued, a reference is not only limited to the teachings in the examples. Applicants also argue the advantages of using more than one metal in the coating, however, this is not a clear showing of criticality commensurate in scope with the invention.

Applicants argue that the EP reference does not teach that the outer layer comprises more than one metal from the listing defined in instant claim 1. This is not persuasive because this reference clearly teaches metals, such as Ti, W, Mo, etc., for the second layer and states that the second layer coating can also be an alloy thereof which means that the alloy contains more than one of the above metals (i.e. "alloys thereof" reads on alloys of the aforementioned metals which can be a mixture of two of these metals).

With respect to the provisionally obviousness-type double patenting, no clear remarks have been defined.

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event,

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however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael A. Marcheschi whose telephone number is (571) 272-1374. The examiner can normally be reached on M-F (8:00-5:30) First Friday Off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jerry Lorengo can be reached on (571) 272-1233. The fax phone number for the organization where this application or proceeding is assigned is (571) 273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

/Michael A Marcheschi/  
Primary Examiner, Art Unit 1793